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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,492	06/19/2001	Tae-Kyung Kim	1293.1220	8681

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EXAMINER

ORTIZ CRIADO, JORGE L

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/07/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,492

Applicant(s)

KIM ET AL.

Examiner

Jorge L Ortiz-Criado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 7-10, 16-18 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 12, 25-34 and 38-42 is/are rejected.
- 7) ☒ Claim(s) 6, 13-15, 19-21 and 35-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because should be limited to a single paragraph on a separate sheet within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

Election/Restrictions

3. Applicant's election with traverse of Species I, Figs. 8 claims 1-3, 5-6, 11-15, 19-21 and 25-42 in Paper No. 7 is acknowledged. The traversal is on the ground(s) that "*there have been no references cited to show any necessity for requiring restriction and the evaluation of the sets of claims would not provide an undue burden upon the Examiner*".

The Examiner cannot concur because the application contains claims directed to the patentably distinct species of the claimed invention as specified in the prior art and according with MPEP § 803 reproduced below:

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Under the statute an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent (MPEP § 806.04 - § 806.04(i)) or distinct (MPEP § 806.05 - § 806.05(i))

and according to section of MPEP § 803 (A), reproduced below:

The inventions must be independent (see MPEP § 802.01, § 806.04, § 808.01)

As provided in MPEP § 806.04 (Independent Inventions) reproduced below:

"If it can be shown that the two or more inventions are in fact independent, applicant should be required to restrict the claims presented to but one of such independent inventions";

specifically MPEP § 806.04 (C), reproduced below:

"(C) Where species under a genus are independent, for example, a genus of paper clips having species differing in the manner in which a section of the wire is formed in order to achieve a greater increase in its holding power".

According to MPEP § 808.01 (a) (Species)

"Where there is no disclosure of relationship between species (see MPEP § 806.04(b)), they are independent inventions and election of one invention following a requirement for restriction is mandatory even though applicant disagrees with the examiner. There must be a patentable difference between the species as claimed. See MPEP § 806.04(h). Since the claims are directed to independent inventions, restriction is proper pursuant to 35 U.S.C. 121, and it is not necessary to show a separate status in the art or separate Classification".

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The requirement is still deemed proper and is therefore made FINAL.

4. Claims 7-10,16-18 and 22-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

5. Claim 4, is also believed as being drawn to the elected Species I and is further considered, a provisional election was made with traverse to prosecute the invention of Species II, Figs. 8, claim 1-3, 5-6, 11-15,19-21. Applicant in replying to this Office action must make affirmation of this.

Drawings

6. The drawings are objected to because in Fig. 5 descriptive labels should be provided. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5, 11-12, 25-34, and 38-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al. U.S. Patent No. 6,570,827.

Regarding claim 1, Yamamoto et al. discloses an optical pickup device (See Fig. 29) comprising:

- a light source to emit light (See Fig. 29 “laser light”);
- an objective lens to focus the emitted light from the light source on a recording medium to form a light spot (See Fig. 29, ref # 2);
- an optical path changer disposed on an optical path of the emitted light between the light source and the objective lens, the optical path changer changing the optical path of the emitted light (See Fig. 29; col. 14, line 55 to col. 15 line 54);
- a chromatic aberration correction lens disposed on the optical path between the light source and the objective lens, the chromatic aberration correction lens correcting a chromatic aberration occurring due to a change in a wavelength of the emitted light and/or due to an increase in a wavelength bandwidth of the emitted light (See Figs. 1, 29-ref # 1; col. 3 line 52 to col. 4, line 19; col. 9, lines 40-67; col. 15 lines 10-19)

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the chromatic aberration correction lens comprising a first lens having a positive power and a second lens having a negative power adjacent to each other (See Figs. 1, 29-ref # 1; col. 3 line 52 to col. 4, line 36; col. 15 lines 10-19),

a total focal length of the chromatic aberration correction lens being infinite as compared to the objective lens (See Fig. 1, 29, ref #1 parallel light forms an infinite focal length as compared to the objective length); and

a photodetector to receive the light reflected from the recording medium and then incident thereon through the optical path changer (See Fig. 29, ref # 8).

Regarding claim 2, Yamamoto et al. discloses wherein the total focal length of the chromatic aberration correction lens is at least 10 m (See Figs. 1, 29), parallel light forms an infinite focal length as compared to the objective length wherein 10 m is infinite as compared to the focal length of objective lens).

Regarding claim 3, Yamamoto et al. discloses wherein an Abbe number of an optical material, of which the first lens having the positive power is formed, at a d-line, is larger than that of an optical material, of which the second lens having the negative power is formed, at the d-line (See col. 3, line 62 to col. 4, line 65; col. 9, lines 40-67);

Regarding claim 4, Yamamoto et al. discloses wherein in the second lens having the negative power and the first lens having the positive power are sequentially disposed from the

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light source, and the first and second lenses have similar powers (See Figs.1, 29-ref # 1; col. 3 line 52 to col. 5, line 4; col. 15 lines 10-19)

Regarding claim 5, Yamamoto et al. discloses wherein the first and the second lenses are formed of glass materials, respectively, which have different Abbe numbers at a d-line and similar refractivities. (See Figs.1, 29-ref # 1; col. 3 line 52 to col. 5, line 4; col. 15 lines 10-19)

Regarding claim 11, Yamamoto et al. discloses collimating lens between the light source and the chromatic aberration correction lens, the collimating lens changing the emitted light into a parallel light, so that the parallel light is incident on the chromatic aberration correction lens (see col. 14, line 55 to col. 15, line 5; Fig. 29)

Regarding claim 12, Yamamoto et al. discloses beam shaping device on an optical path between the light source and the chromatic aberration correction lens, the beam shaping device shaping the emitted light from the light source (see col. 14, line 55 to col. 15, line 5; Fig. 29)

Regarding claim 25, Yamamoto et al. discloses wherein the objective lens has a numerical aperture of between 0.65 and 0.85 (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 26, Yamamoto et al. discloses wherein the light source is a semiconductor laser and the emitted light has a wavelength of 420 nm or less (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 27, Yamamoto et al. discloses an optical pickup device (See Fig. 29) comprising:

- a light source to emit light (See Fig. 29 “laser light”);
- an objective lens to focus the emitted light from the light source on a recording medium (See Fig. 29, ref # 2);
- a chromatic aberration correction unit disposed on an optical path of the emitted light between the light source and the objective lens, the chromatic aberration correction unit correcting a chromatic aberration occurring due to a change in a wavelength of the emitted light and/or due to an increase in a wavelength bandwidth of the emitted light (See Figs.1, 29-ref # 1; col. 3 line 52 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)
- the chromatic aberration correction unit comprising a first lens having a positive power and a second lens having a negative power adjacent to each other (See Figs.1, 29-ref # 1; col. 3 line 52 to col. 4, line 36; col. 15 lines 10-19),

Regarding claims 28 and 29, Yamamoto et al. discloses wherein the total focal length of the chromatic aberration correction lens is at least 10 m (See Figs. 1, 29), parallel light forms an infinite focal length as compared to the objective length wherein 10 m is infinite as compared to the focal length of objective lens).

Regarding claim 30, Yamamoto et al. discloses wherein the change in the wavelength results from a change in a light output power of the light source (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 31, Yamamoto et al. discloses wherein the change in the wavelength results from driving the light source with a high frequency (HF) (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 32, Yamamoto et al. discloses wherein the light source is a surface emitting laser emitting a substantially circular beam (see col. 14, line 55 to col. 15, line 5; Fig. 29)

Regarding claim 33, Yamamoto et al. discloses a collimator disposed on the optical path between the light source and the chromatic aberration correction unit to condense the light emitted from the light source to be parallel; an optical path changer disposed on the optical path between the light source and the objective lens, the optical path changer changing a path of the emitted light; and a photodetector to receive light reflected from the recording medium and then incident thereon through the optical path changer (See col. 14, line 55 to col. 15, line 21; Fig. 29)

Regarding claim 34, Yamamoto et al. discloses sensing lens disposed on an optical path of the emitted light between the beam splitter and the photodetector to include an astigmatism into the light incident on the recording medium (See col. 14, line 55 to col. 15, line 21; Fig. 29)

Regarding claim 37, wherein the objective lens has a numerical aperture of between 0.65 and 0.85 (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 38, Yamamoto et al. discloses wherein the wavelength of the light source is 420 nm or less (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claim 39, Yamamoto et al. discloses wherein the light source is a semiconductor laser (See Figs.1, 29-ref # 1; col. 3 line 5 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Regarding claims 40-42, Yamamoto et al. discloses a lens system receiving an incident light, comprising:

a first lens having a first power and a second lens, adjacent to the first lens, having a second power opposite to the first power, wherein the first and second lenses correct a chromatic aberration occurring due to a change in a wavelength of the incident light and/or due to an increase in a wavelength bandwidth of the incident ; wherein the first power is positive and the second power is negative; wherein the chromatic aberration correction unit has an optical power

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of nearly zero (See Figs.1, 29-ref # 1; col. 3 line 52 to col. 4, line 65; col. 9, lines 40-67; col. 15 lines 10-19)

Allowable Subject Matter

9. Claims 6,13-15,19-21 and 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. U.S. Patent No. 4,610,515 to Tanaka, which discloses a chromatic aberration correction unit disposed on an optical path of the emitted light between the light source and the objective lens, the chromatic aberration correction unit correcting a chromatic aberration occurring due to a change in a wavelength of the emitted light and/or due to an increase in a wavelength bandwidth of the emitted light, the chromatic aberration correction unit comprising a first lens having a positive power and a second lens having a negative power adjacent to each other

b. U.S. Patent No. 5,479, 296 to Maruyama et al., which discloses a chromatic aberration correction unit disposed on an optical path of the emitted light between the light source and the objective lens, the chromatic aberration correction unit correcting a chromatic aberration occurring due to a change in a wavelength of the emitted light

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and/or due to an increase in a wavelength bandwidth of the emitted light, the chromatic aberration correction unit comprising a first lens having a positive power and a second lens having a negative power adjacent to each other

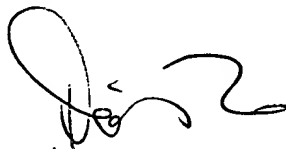
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L Ortiz-Criado whose telephone number is (703) 305-8323. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm), Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H To can be reached on (703) 305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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